

WP 05-WH1603

Revision 19

CH Underground Transporter 52-H-008A

Technical Procedure

EFFECTIVE DATE: 08/15/19

Gary Chism
APPROVED FOR USE

THIS DOCUMENT IMPLEMENTS KE-7-5 AND REQUIREMENTS FOR THE HWFP.

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CHANGE HISTORY SUMMARY

REVISION NUMBER	DATE ISSUED	DESCRIPTION OF CHANGES
18	07/31/18	DSA Rev. 6A: <ul style="list-style-type: none">• Updated SAC 5.5.1, LCO 3.1.2, 3.2.3, and 3.3.8 in Precautions and Limitations.• Removed references to emplaced transporter 52-H-002B.• Removed bullet requiring Fire Watch for use beyond 200 ft of CH Waste Face if FSS is inoperable.
19	08/15/19	DSA Rev 6a Page Change 002a: <ul style="list-style-type: none">• Removed SAC 5.5.8 and replaced it with KE 7-5.

1.0 INTRODUCTION

1.1 PURPOSE

This procedure provides guidance for operating the contact-handled (CH) transuranic (TRU) underground (U/G) transporters 52-H-008A at the Waste Isolation Pilot Plant (WIPP).

1.2 SCOPE

Performance of this procedure, or selected sections of the procedure, implements inspection requirements of the Hazardous Waste Facility Permit (HWFP) relative to the scope of, and as defined in, this document.

This procedure meets the Surveillance Requirements (SR) 4.1.2.1 of Limiting Conditions of Operation (LCO) 3.1.2 and Specific Administrative Control (SAC) 5.5.1.

1.3 RECORDS

Records generated are handled in accordance with departmental Records Inventory and Disposition Schedules. Performance of this procedure generates the following records.

- Equipment Logbook
- EA04AD3001-SR10, LCO Surveillance Data Sheet

2.0 REFERENCES

DOCUMENT NUMBER AND TITLE	BASELINE DOCUMENT	REFERENCED DOCUMENT	KEY STEP
40 CFR §264.15, General Inspection Requirements	✓		
DOE/WIPP-07-3372, Waste Isolation Pilot Plant Documented Safety Analysis	✓		
DOE/WIPP-07-3373, Waste Isolation Pilot Plant Technical Safety Requirements	✓		(\$)
Hazardous Waste Facility Permit, EPA Identification No. NM4890139088-TSDF	✓		(\$)
52-H-008, Owner and Operator Manual for Underground CH TRU Transporter	✓		
WP 04-AD3001, Facility Mode Compliance		✓	
WP 04-AD3016, Equipment Out of Service Process		✓	
WP 05-WH1810, Underground Transuranic Mixed Waste Disposal Area Inspection		✓	
WP 12-HP1100, Radiological Surveys	✓		

CONTINUOUS USE

DOCUMENT NUMBER AND TITLE	BASELINE DOCUMENT	REFERENCED DOCUMENT	KEY STEP
WP 12-HP1500, Radiological Posting and Access Control	✓		
WP 13-1, Nuclear Waste Partnership LLC Quality Assurance Program Description	✓		
WP 15-GM1002, Issues Management Processing of WIPP Forms		✓	
EA04AD3001-SR10, LCO Surveillance Data Sheet		✓	
STDJHA-023, CH TRU Underground Transporter	✓		

3.0 PRECAUTIONS AND LIMITATIONS

The Technical Safety Requirements (TSRs) contain LCOs and SACs which provide specific preventive or mitigative limits and required actions for identified accident scenarios. Failure to comply with LCOs or SACs may constitute a violation and must be immediately reported to the Central Monitoring Room Operator (CMRO). The step affected by the LCO/SAC is denoted with the **TSR** designator in the margin, a **(\$)** at the beginning of the step and is followed by the LCO/SAC number in bold brackets (e.g. **[LCO 3.X.X]**). Applicable LCO/SAC Surveillance Data Sheets SHALL be completed as required by WP 04-AD3001, Facility Mode Compliance.

3.1 Prior to use, Vehicles/Equipment to be operated within 25 feet of a CH WASTE FACE, in the TRANSPORT PATH when CH WASTE is present in the TRANSPORT PATH, or in the WASTE SHAFT STATION when CH WASTE is present in the WASTE SHAFT STATION, shall be inspected for the following attributes: **[SAC 5.5.1]**

- Brake operation, as applicable.
- Steering, as applicable.
- No excessive leaks.
- Operating lights and horn, as applicable.
- Fluid levels are within operating range, as applicable.
- Cleanliness.

- 3.2 The Fire Suppression System on underground vehicles/equipment selected for use shall be operable when the vehicle is in the WASTE SHAFT STATION and CH WASTE is present; when the vehicle is in the TRANSPORT PATH and CH WASTE is present; and when the vehicle is less than or equal to the minimum standoff distance as specified in Table 3.1.2-1, Standoff Distances from WASTE FACE for Vehicles/Equipment Containing Liquid Combustibles. **[LCO 3.1.2]**
- Control Panel with functional status indicating light(s).
 - Temperature detection elements.
 - Adequately charged suppressant system.
 - Distribution system to disperse the suppressant.
 - Automatic engine cutoff capability.
- 3.3 Vehicles/equipment shall be controlled as follows: **[LCO 3.3.8]**
- Liquid-fueled vehicles/equipment:
 - Attended in the WASTE SHAFT STATION when CH WASTE is present in the WASTE SHAFT STATION.
 - Attended in the TRANSPORT PATH when CH WASTE is present in the TRANSPORT PATH
 - Attended when within 25 feet from a CH WASTE FACE.
 - Limited to no more than two liquid-fueled vehicles/equipment within 25 feet of a CH WASTE FACE.
- 3.4 When the ACTIVE PANEL, including the exhaust drift, is occupied, at least one continuous air monitor (CAM) communicating with the CMR is required in the exhaust drift of the active Disposal Panel. Portable air samplers or portable CAMs are used when the CAM communication with the CMR becomes inoperable. The temporary use of portable devices and the return to service of CMR communication are managed under the Radiation Protection Program. (KE 7-5)
- 3.5 The Underground Ventilation Filtration System (UVFS)/Interim Ventilation System (IVS) shall be operable. **[LCO 3.2.3]**
- 3.6 The Transporter is NOT to be operated with U/G ventilation out of service.
- 3.7 Steering is NOT functional with the circuit selector valve in the pallet drive position.
- 3.8 If equipment becomes inoperable, Waste Handling Engineer (WHE) must be notified immediately by phone or in-person communication.

4.0 PREREQUISITE ACTIONS

- 4.1 **IF** work will be performed in the ACTIVE PANEL, including the exhaust drift,
THEN ENSURE at least one CAM in the exhaust drift of the active Disposal Panel is communicating with the CMR. (KE 7-5)
- 4.2 **CONTACT** Underground Facility Engineer to ensure ventilation quantities are within acceptable limits for equipment operation/use.

5.0 PERFORMANCE

- HWFP** 5.1 **(S) PREOPERATIONAL CHECKS [HWFP Table E-1]**
- 5.1.1 Waste Handler (WH), **REVIEW** Equipment Logbook for outstanding deficiencies and Action Requests (ARs).
- 5.1.2 **INSPECT** for deterioration (visible cracks, erosion, salt build-up, damage, corrosion, loose or missing parts, malfunctions, and structural deterioration)
- 5.1.3 **IF** a required inspection becomes delinquent, or has failed, **THEN:**
- [A] Immediately **NOTIFY** the on-call Site Environmental Compliance (SEC) Representative and the CMRO of the delinquent or failed inspection.
- [B] **SCHEDULE** and **COMPLETE** the required inspection.
- [C] **DOCUMENT** the following and **SUBMIT** to the SEC manager within 5 working days:
- Schedule for inspection.
 - Reasons why the inspection was not performed.
 - Any compensatory measures taken to offset negative impacts resulting from not performing the inspection.
 - Actions to prevent further delinquencies.
- [D] WHE, **GO TO** WP 15-GM1002, Issues Management Processing of WIPP Forms, and **ENSURE** a WIPP form is generated.
- 5.1.4 **VERIFY** U/G ventilation is aligned to allow Transporter operation.
- 5.1.5 **INSPECT** area around Transporter for the following:
- Obstacles that may be damaged by Transporter
 - Obstacles that may cause damage to Transporter

NOTE

Fluid levels may need to be re-checked after Transporter is positioned on level ground to ensure accuracy.

5.1.6 **INSPECT** the following prior to engine start:

NOTE

Failure of the fire suppression system (FSS) during the performance of the following bullet does not require entry into LCO 3.1.2. However, the Transporter cannot be selected for use on EA04AD3001-SR10.

- TSR**
- **(\$)** **VERIFY** fire suppression system electronic display panel green status LED is illuminated on vehicles selected for use. **[LCO 3.1.2] [SR 4.1.2.1]**
- TSR**
- **(\$)** **VERIFY** Engine oil level is in proper range on dipstick. **[SAC 5.5.1]**
- TSR**
- **(\$)** **VERIFY** Transmission has fluid. **[SAC 5.5.1]**
- TSR**
- **(\$)** **VERIFY** Hydraulic tank level is as follows: **[SAC 5.5.1]**
 - Above lower sight gauge
 - Below upper sight gauge
- TSR**
- **(\$)** **VERIFY** acceptable cleanliness (minimal accumulation of oils/greases [oil sheen/dampness/droplets]). **[SAC 5.5.1]**
 - Air cleaner indicator is yellow.
 - Frame joint safety bar is NOT connected.
 - Battery compartment is free from acid spills and has NO loose or missing caps or cables.
 - General condition of tires is as follows:
 - NOT excessively worn or cracked
 - All wheel lugs are tight and torque indicators applied
 - Sufficient fuel for intended operations.
- 5.1.7 **TURN** battery disconnect switch to ON,
THEN INSPECT the following:
- Pedals and levers are working properly
- TSR**
- **(\$)** Horn is operational when actuated **[SAC 5.5.1]**

- TSR**
- 5.1.8 **(\$)** **PLACE** light switch to Position 4, and **VERIFY** all lights illuminate. **[SAC 5.5.1]**
 - 5.1.9 **ENSURE** fire extinguisher is charged and inspection is up to date.
 - 5.1.10 **REMOVE** wheel chocks.
 - 5.1.11 **ADJUST** seat for easy access to Transporter controls.
 - 5.1.12 **ENSURE** seat locking mechanism is engaged.
 - 5.1.13 **VERIFY** seat belt is in good condition.
 - 5.1.14 **FASTEN** seat belt.
 - 5.1.15 **START** engine as follows:
 - [A] **SHIFT** transmission to “N” (Neutral).
 - [B] **ENSURE** parking/emergency brake button is pushed in.
 - [C] **ENSURE** engine stop knob is pulled out.

NOTE

Start switch Position 1 is used for cold starts.

- 5.1.16 **TURN AND HOLD** start switch to Position 2 until engine starts.
 - 5.1.17 **ALLOW** engine to idle at low rpm (revolutions per minute) for a minimum of two minutes.
- TSR**
- 5.1.18 **(\$)** Visually **VERIFY** no excessive leaks (i.e., battery compartment, hydraulic lines, fuel lines) as indicated by visible flow of fluid under pressure, puddles beneath the equipment, or abnormal loss of hydraulic fluid. **[SAC 5.5.1]**
 - 5.1.19 **IF** the Transporter is leaking:
 - [A] **THEN GO TO** Attachment 1, Leak Categorization, to determine the leak type.
 - [B] **PERFORM** Attachment 1 required actions.

CAUTION

The parking brake will initiate at 45 psi.

5.1.20 **VERIFY** the following:

- Engine oil pressure: 25 psi or above
- Voltmeter: 24 – 30 volts
- Engine and V-Belt Fault indicator lights NOT illuminated
- Air pressure: 90 – 105 psi
- Transmission oil pressure: 180 – 220 psi
- Converter oil temperature at ambient temperature and maximum of 220 degrees

5.1.21 **IF** indications are outside normal range,
THEN STOP engine immediately by pushing in engine stop knob
and **NOTIFY** WHE immediately by phone or in-person
communication.

5.1.22 **TEST** parking brake as follows:

- [A] **SHIFT** transmission to “F” (Forward) or “R” (Reverse).
- [B] **SHIFT** gear lever to “2” (Second Gear).
- [C] **PRESS** accelerator.
- [D] **VERIFY** Transporter does NOT move.
- [E] **SHIFT** transmission to “N” (Neutral).

NOTE

If pallet is on Transporter, Step 5.1.22 will be completed during unloading operation.

5.1.23 **TEST** pallet mover and hook actuator operation.

5.1.24 **MOVE** circuit selector valve to STEERING mode.

5.1.25 **PERFORM** the following to complete checks:

- [A] **PRESS** and **HOLD** down brake pedal.
- [B] **CHECK** air pressure gauge and low pressure warning lights.
- [C] **RELEASE** parking brake by pulling out parking/emergency brake button.
- [D] **SHIFT** transmission to "F" (Forward).
- [E] **SHIFT** gear lever to "1" (Low Gear).
- [F] **DRIVE** Transporter forward and backward to test the following:

TSR

- (\$) Steering operates smoothly by **TURNING** the Transporter both to the left and right and **VERIFY** proper response. **[SAC 5.5.1]**

TSR

- (\$) Brakes respond properly when driving the Transporter and bringing it to a stop. **[SAC 5.5.1]**

TSR

- (\$) **VERIFY** backup alarm operates while moving in reverse. **[SAC 5.5.1]**

5.1.26 **STOP** Transporter.

5.1.27 **SHIFT** transmission to "N" (Neutral).

5.1.28 **PUSH** in parking/emergency brake button to engage parking brake.

5.1.29 **RECORD** in Equipment Logbook:

- Deficiencies found.
- Procedure Number.
- Equipment Number.
- Hour meter reading.
- Check SAT or Problems Noted.
- Addition of any fluids.
- Corrective actions taken (e.g., outstanding/newly generated ARs).

5.1.30 **ENTER** date, time, and signature to document performance of preoperational check.

CONTINUOUS USE

- 5.1.31 **NOTIFY** WHE by phone or in-person communication of the operational status of the transporter and of any deficiencies discovered during Preoperational Checks that **CANNOT** be corrected by Operator.
- [A] **RECORD** AR number in Equipment Logbook.
- [B] **COMPLETE** appropriate sections of WP 05-WH1810, Underground Transuranic Mixed Waste Disposal Area Inspection, Attachment: Preoperational Waste Handling Mode Checklist.
- 5.1.32 **(\$)** **WHEN** preparing for Waste Handling Mode, **THEN COMPLETE** EA04AD3001-SR10, LCO Surveillance Date Sheet. **[LCO 3.1.2] [SR 4.1.2.1]**
- 5.1.33 **FORWARD** completed Surveillance Data Sheet(s) and all associated documentation to the FSM for review and approval, as applicable.

5.2 TRANSPORTER SHUTDOWN

TSR

- 5.2.1 **(\$)** **ENSURE** Transporter is greater than 25 feet from a CH WASTE FACE. **[LCO 3.3.8]**
- 5.2.2 **STEER** Transporter out of traffic areas.
- 5.2.3 **SHIFT** transmission to "N" (Neutral).
- 5.2.4 **PUSH** in parking/emergency brake button to engage parking brake.
- 5.2.5 **IF** Transporter was used to perform work just prior to parking, **THEN ALLOW** Transporter to idle for two to three minutes.
- 5.2.6 **TURN** lights OFF by moving switch to Position 1.
- 5.2.7 **PUSH** in engine stop knob until engine stops.
- 5.2.8 **CHOCK** Transporter wheels.
- 5.2.9 **TURN** battery disconnect switch to OFF.

Attachment 1 – Leak Categorization

	TYPE 0	TYPE 1	TYPE 2	TYPE 3	TYPE 4
Indications:	No indications of moisture – dry	Dampness around hoses or engine compartments, including oil sheen.	Dripping from a hose	Spraying from a hose or oil running down firewall, etc.	Ruptured hose (e.g., oil line, fuel line)
Status	Operational		DO NOT OPERATE		
Required Actions:	None	RECORD leak Type 1 and the source of the leak in Equipment Logbook.	[A] TAG equipment out of service with an Equipment Out of Service Tag in accordance with WP 04-AD3016, Equipment Out of Service Process. [B] SUBMIT AR for repairs. [C] RECORD leak type and AR number in Equipment Logbook. [D] WHEN repairs and cleanup are completed, the equipment can be put back into service.		